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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,682	03/19/2001	Yuji Fujiwara	MTS-3237US	9387

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06/01/2006

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EXAMINER
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ONUAKU, CHRISTOPHER O

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/811,682

Applicant(s)

FUJIWARA ET AL.

Examiner

Christopher Onuaku

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-8, 11-15, 17, 18 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-8, 11-15 and 21-26 is/are allowed.
- 6) ☒ Claim(s) 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/16/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 3/16/06 with respect to claims 17&18 have been fully considered but they are not persuasive.

Applicant argues that claim 17 rejection is overcome by the amendments to claims 2, 4, and 11. In response, examiner disagrees, and points out that if the prior art shows a medium for carrying a program and/or the data for enabling a computer to execute some functions provided for means in part of the invention according to any one of claims 2, 4, and 11, wherein the medium can be processed by said computer, then the claimed invention can be rejected. (See the claim 17 rejections set forth below).

Furthermore, applicant argues that claim 18 rejection is overcome by the amendments to claims 24-26. In response, examiner disagrees, and points out that if the prior art shows a medium for carrying a program and/or the data for enabling a computer to execute some operations provided for steps in part of the invention according to claims 24-26, wherein the medium can be processed by said computer, then the claimed invention can be rejected. (See the claim 18 rejections set forth below).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17&18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimoto et al (US 5,809,200).

Regarding claim 17, Nishimoto et al disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression, comprising a medium for carrying a program and/or the data for enabling a computer to execute all or some functions provided for means in whole or part of the invention according to any one of claims 2,4 and 11, wherein the medium can be processed by the computer (see Fig.1; ROM 12 as the claimed medium; CPU 8 and the claimed computing means, col.5, lines 16-30; JPEG encoder/decoder 5 which includes the quantization unit 5b and encoding unit 5d of Fig.3; col.9, line 66 to col.10, line 23). It is pertinent to note that some of the functions of the apparatuses of claims 2,4&11 include, for example, quantization means and encoding means for quantizing and encoding signals. Furthermore, claim 17 has been treated as an independent claim because of the current structure of the claim.

Regarding claim 18, Nishimoto et al disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression, comprising a medium for carrying a program and/or the data for enabling a computer to

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execute all or some functions provided for means in whole or part of the invention according to claims 24-26, wherein the medium can be processed by the computer (see Fig.1; ROM 12 as the claimed medium; CPU 8 and the claimed computing means, col.5, lines 16-30; JPEG encoder/decoder 5 which includes the quantization unit 5b and encoding unit 5d of Fig.3; col.9, line 66 to col.10, line 23). It is pertinent to note that some of the functions of the method steps of claims 2,4&11 include, for example, quantizing and encoding signals. Furthermore, claim 18 has been treated as an independent claim because of the current structure of the claim.

#### ***Allowable Subject Matter***

4. Claims 2-8,11-15&21-26 are allowable over the prior art of record.
5. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a signal recording apparatus, where the apparatus comprises wherein the quantization step is a product of a basic quantization step and a multiplier factor to be combined with the basic quantization step, and the data, containing the plural pieces of quantization information and the encoded signal, is a quantization number for specifying the basic quantization step and the multiplier factor information for specifying the multiplier factor to be combined with the quantization step.

Regarding claim 4, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a signal recording apparatus, where the apparatus further comprising range conversion means of range converting the quantized signal using a range conversion multiplier factor which is represented as the power of 2.

Regarding claim 11, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a signal reproducing apparatus, where the apparatus further comprises wherein the quantized signal is range converted using a range conversion multiplier factor which is represented as the power of 2, and the data, containing the plural pieces of quantization information and the encoded signal, has the information regarding the range conversion multiplier factor.

Regarding claim 21, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second

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video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a method for recording a compressed signal that has been encoded using at least one quantization step from a first set of quantization steps, where the methods includes the steps of reducing the first set of quantization steps into a second set of quantization steps and a third set of multiplier factors, wherein each quantization step in the first set is a different numerical value within the first set and each quantization step in the second set is a different numerical value within the second set, and configuring the at least one quantization step of the first set by a respective one multiplier factor of the third set and by a respective one quantization step of the second set.

Regarding claim 24, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.



However, Nishimoto et al fail to explicitly disclose a method for recording a signal, where the method further includes the steps wherein the quantization step is a product of a basic quantization step and a multiplier factor to be combined with the basic quantization step, and the data is a quantization number for specifying the basic quantization step and the multiplier factor information for specifying the multiplier factor to be combined with the quantization step.

Regarding claim 25, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a method for recording a signal, where the method further includes the steps of range converting the quantized signal using a range conversion multiplier factor which is represented as the power of 2, wherein the data has the information regarding the range conversion multiplier factor.

Regarding claim 26, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a method for recording a signal, where the method further includes the steps of wherein the quantized signal is range converted using a range conversion multiplier factor which is represented as the power of 2, the data has the information regarding the range conversion multiplier factor, and the recording of a signal comprising making an inverse range conversion on the basis of the encoded signal and the information regarding the range conversion multiplier factor.

### ***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Onuaku whose telephone number is 571-272-7379. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on 571-272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
COO  
5/19/06

  
James J. Groody  
Supervisory Patent Examiner  
Art Unit 262-2621